

What is claimed is:

1. A method for establishing a connection with a mobile node, the method comprising:

receiving a registration request;

5 determining a tunnel identifier;

transmitting the registration request to a home agent, the registration request including the tunnel identifier;

receiving a response to the request and, responsively, activating a connection;

10 receiving data packets from the home agent in response to the transmitting the registration request, the data packets including the tunnel identifier;

identifying the connection using the tunnel identifier; and

routing the packets along the connection.

15 2. The method of claim 1 wherein the data packets received from the home agent includes a header and the header includes the tunnel identifier.

3. The method of claim 2 further comprising extracting the tunnel identifier from the header and locating a tunnel table entry in a tunnel table.

20 4. The method of claim 3 wherein the tunnel table entry indicates an entry in a connection table.

5. A method for establishing a connection with a mobile node, the method comprising:

receiving a registration request from a mobile node, the mobile node having a home agent, the registration request also representing a call;

5 assigning a tunnel identifier to the call associated with the registration request;

forwarding the registration request to the home agent, the request including the tunnel identifier;

establishing a connection;

receiving a registration response and forwarding the registration response to the
10 mobile node;

receiving packets of data from the home agent, each of the packets of data including the tunnel identifier; and

subsequently, determining the connection for packets having the tunnel identifier.

15 6. The method of claim 5 wherein the tunnel look-up includes looking in a connection table for connection information corresponding to the tunnel identifier.

7. The method of claim 6 wherein the connection information is from the point-to-point (PPP) protocol.

20

8. The method of claim 5 wherein each of the packets includes a header and the header is a GRE header.

9. A method comprising:

receiving a registration request;

receiving a data stream, the data stream associated with the registration request,
the data stream including a plurality of packets;

5 assigning an identifier to the data stream;

transmitting the registration request to a home agent, the registration request
including the identifier;

receiving return packets of information, the packets of return information
including the identifier; and

10 translating the identifier into a connection and transmitting the return packets
using the connection.

10. The method of claim 9 wherein the step of translating includes establishing a
tunnel table, the tunnel table having entries corresponding to tunnel identifiers.

11. The method of claim 10 wherein the step of translating includes establishing
a connection table, the connection table including connection information for entries in
the tunnel table.

12. The method of claim 11 wherein the connection table includes information
according to the point-to-point (PPP) format.

13. A system comprising:

a mobile node;

a PDSN, the PDSN communicatively coupled to the mobile node, the PDSN receiving a registration request from mobile node, the PDSN assigning an identifier to a plurality of packets received from the mobile node;

5 a home agent coupled to the PDSN, the home agent receiving and storing the tunnel identifier in the registration request and sending return packets to the PDSN including the tunnel identifier;

wherein the PDSN receives a response message from the home agent and establishes a connection between the mobile node and the home agent; and

10 wherein the PDSN extracts the tunnel identifier from the return packets and translates the tunnel identifier into information representative of the connection, and transmits the return packets on the connection.

14. The system of claim 13 wherein the tunnel identifier is included in a header
15 in the return packets.

15. The system of claim 13 wherein the connection is made according to the point-to-point protocol (PPP).

20 16. The system of claim 13 wherein the PDSN includes a tunnel entry table and a PPP connection table.

17. A system for establishing a connection with a mobile node, the system comprising:

means for receiving a registration request;

means for determining a tunnel identifier;

5 means for transmitting the registration request to a home agent, the registration request including the tunnel identifier;

means for receiving a response to the request and, responsively, activating a connection;

means for receiving data packets from the home agent in response to the transmitting the registration request, the data packets including the tunnel identifier;

means for identifying the connection using the tunnel identifier; and

means for routing the packets along the connection.

18. The system of claim 17 wherein the data packets received from the home agent includes a header and the header includes the tunnel identifier.

19. The system of claim 18 further comprising means for extracting the tunnel identifier from the header and locating a tunnel table entry in a tunnel table.

20. The system of claim 19 wherein the tunnel table entry indicates an entry in a PPP connection table.

21. A system for establishing a connection with a mobile node, the system comprising:

means for receiving a registration request from a mobile node, the mobile node having a home agent, the registration request also representing a call;

5 means for assigning a tunnel identifier to the call associated with the registration request;

means for forwarding the registration request to the home agent, the request including the tunnel identifier;

means for establishing a connection;

10 means for receiving a registration response and forwarding the registration response to the mobile node;

means for receiving packets of data from the home agent, each of the packets of data including the tunnel identifier; and

means for determining the connection for packets having the tunnel identifier.

15

22. A system comprising:

means for receiving a registration request;

means for receiving a data stream, the data stream associated with the registration request, the data stream including a plurality of packets;

20 means for assigning an identifier to the data stream;

means for transmitting the registration request to a home agent, the registration request including the identifier;

means for receiving return packets of information, the packets of return information including the identifier; and

means for translating the identifier into a connection and transmitting the return packets using the connection.

5

23. A computer readable medium having stored therein instructions for causing a processing unit to execute the following method:

receiving a registration request;

determining a tunnel identifier;

10 transmitting the registration request to a home agent, the registration request including the tunnel identifier;

receiving a response to the request and, responsively, activating a connection;

receiving data packets from the home agent in response to the transmitting the registration request, the data packets including the tunnel identifier;

15 identifying the connection using the tunnel identifier; and

routing the packets along the connection.

24. A computer program for establishing a connection between a mobile node and a home agent, the program comprising:

20 first code for receiving a registration request;

second code for determining a tunnel identifier;

third code for transmitting the registration request to a home agent, the registration request including the tunnel identifier;

[illegible]

5

seventh code for routing the packets along the connection.